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tracked by the auto-matching facility until the end of the etch step when the auto-matching is again disabled, and the matching unit settings are driven to the values required for the deposition step. The sequence of operations is shown in Figure 2.

In the Claims<sup>2</sup>

Kindly rewrite Claims 1, 2, 5, 9, 19, 26, 31, 33 and 35 to read as follows:

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1. (Amended) A method of processing a workpiece in a chamber, the method comprising:

(a) striking a plasma in the chamber;

(b) treating the workpiece by cyclically adjusting the processing parameters between at least a first step having a first set of processing parameters and a second step having a second set of process parameters; and

(c) stabilizing the plasma during the transition between the first and second steps.

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2. (Amended) A method according to Claim 1, wherein the plasma is stabilized between each cyclic step.

<sup>2</sup> A copy of any revised claims showing additions and deletions thereto is attached as ATTACHMENT "B".

*B15* *5b* *C3* 5. (Twice amended) A method according to Claim 1, wherein the plasma is stabilized by matching the impedance of the plasma to the impedance of the power supply which provides energy to the plasma by means of a matching unit.

*B16* *5b* *D1* 9. (Amended) A method according to Claim 8, wherein automatic matching is enabled when the chamber pressure and/or other parameters have stabilized.

*B17* *5b* *C4* 19. (Twice amended) A method according to Claim 1, wherein stabilization of the plasma is enhanced by substantially preventing or reducing variation of the pressure in the chamber between the first and second steps.

*B18* 26. (Twice amended) A method according to Claim 1, wherein stabilization of the plasma is enhanced by feeding a further gas into the chamber.

*B19* 31. (Amended) A method of processing a workpiece in a chamber, the method comprising:

- (a) striking a plasma in the chamber;
- (b) treating the workpiece by cyclically adjusting the processing parameters between at least a first step having a first set of

processing parameters and a second step having a second set of process parameters; and

(c) stabilizing the plasma during the transition between the first and second steps,

wherein stabilization of the plasma is enhanced by substantially preventing or reducing variation of the pressure in the chamber between the first and second steps, and

wherein the chamber is provided with a portion separated from the main part of the chamber by a deflectable member.

33. (Amended) A plasma processing apparatus comprising a chamber having a support for a workpiece, means for striking a plasma in the chamber, means for cyclically adjusting processing parameters between a first and a second step, and means for stabilizing the plasma during the transition between the first and second steps.

35. (Twice amended) A plasma processing apparatus according to Claim 33, wherein the stabilizing means comprises means to vary the RF power supply frequency, or means for reducing the variation of the pressure in the chamber between the first and second steps.